



THE UNIVERSITY  
OF ILLINOIS  
LIBRARY

370  
Il6e  
no.25-37  
~~\_\_\_\_\_~~

~~EDUCATION~~

Return this book on or before the  
**Latest Date** stamped below. A  
charge is made on all overdue  
books.

University of Illinois Library

JUN - 1 1944

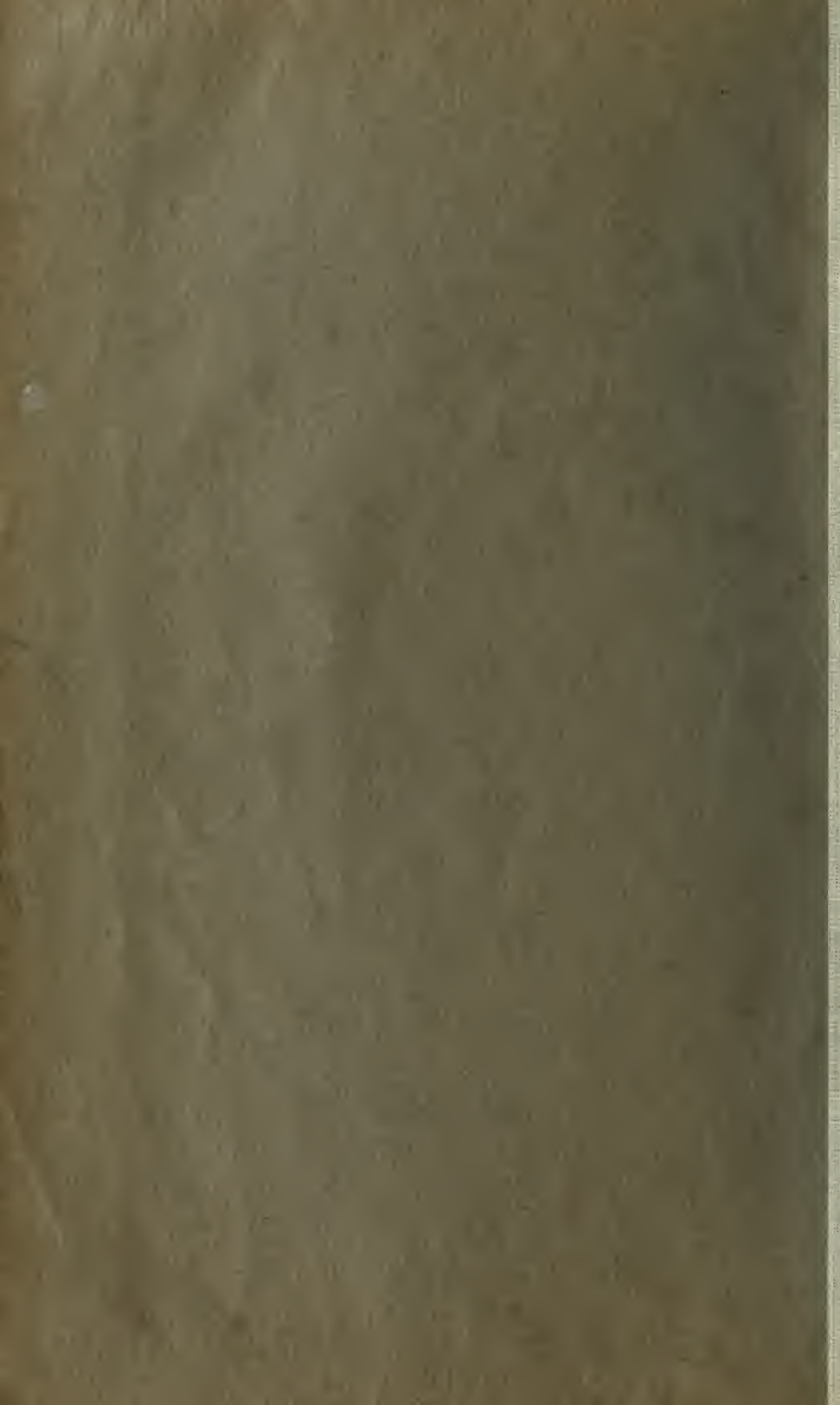
AUG 13 1944

7/20/53

JUN - 9 1955

DEC - 6 1965

MAR 15 1981





# UNIVERSITY OF ILLINOIS BULLETIN

ISSUED WEEKLY

Vol. XXIII

SEPTEMBER 19, 1925

No. 2

[Entered as second-class matter December 11, 1912, at the post office at Urbana, Illinois, under the Act of August 24, 1912. Acceptance for mailing at the special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 31, 1918.]

EDUCATIONAL RESEARCH CIRCULAR NO. 35

BUREAU OF EDUCATIONAL RESEARCH  
COLLEGE OF EDUCATION

## MAKING A COURSE OF STUDY

By

WALTER S. MONROE

Director, Bureau of Educational Research



THE LIBRARY OF THE

SEP 26 1925

UNIVERSITY OF ILLINOIS

PUBLISHED BY THE UNIVERSITY OF ILLINOIS, URBANA  
1925



Ilbe  
no. 35  
cap. 2.

## MAKING A COURSE OF STUDY

**Learning and teaching.** Children are educated by the things they do; by reading books, solving problems in arithmetic, practicing exercises in handwriting, answering questions, writing themes, looking at pictures, listening to music, and so forth. The teacher's task is to devise and select appropriate exercises for the children and then to stimulate and direct them in the doing of such exercises. The outcomes resulting from doing learning exercises we call habits, skills, ideals, knowledge, and attitudes. They function as controls of conduct.

**The function of the school.** The function of the school is to cooperate with other educative agencies in engendering those controls of conduct which will equip children for effective participation in the activities of adult life. It is not the purpose of this circular to present an exposition of the aim of education, but the point of view expressed in the preceding sentence is a fundamental prerequisite in the making of a course of study and should be clearly understood by those engaged in such work.<sup>1</sup> The meaning of this general statement becomes more apparent when we analyze adult life in a way to show the various types of activities in which adults engage. It is also illuminating to consider the nature of the equipment which is needed for effective participation.

**The function of the course of study.**<sup>2</sup> The teachers of a school system are engaged in a cooperative enterprise. They are assumed

---

<sup>1</sup>One of the best expositions of the aim of education from this point of view is given by:

BOBBITT, FRANKLIN. *How to Make a Curriculum*. Boston: Houghton Mifflin Company, 1924. 292 p.

<sup>2</sup>In much of the general usage of the terms "curriculum" and "course of study" there is a lack of precise meaning. By some writers they appear to be used synonymously. Others make the course of study a division of the curriculum.

In spite of inconsistencies there appears to be a reasonable uniformity in regard to one distinction. Curriculum is used as a name for a designation of a body of subject-matter, or the "ground to be covered." This may be expressed in the form of an outline or a syllabus. Recently several curricula have been expressed in terms of objectives to be attained. The scope of the subject-matter may be small, as when we speak of a "curriculum in spelling" or a "curriculum in pronouns;" or large when we refer to the "curriculum of elementary education," "the curriculum of the secondary school," or "the curriculum in architectural

to be working together, striving to accomplish a common purpose, namely, the education of children. To each teacher is assigned certain phases of this task. In order that a cooperative enterprise may be efficient, it is necessary that the workers be furnished with detailed specifications and directions concerning the task which each is to perform. One would not employ a contractor to erect a building without providing him with detailed architectural plans and specifications. With these at hand the contractor may assign specific tasks to the various workers whom he employs and know that if each performs his task properly a satisfactory building will be erected.

A course of study consists of specifications and directions relating to educating children. When a teacher is provided with a carefully prepared course of study, she has a detailed statement of the specific tasks assigned to her and the directions for the performance of these tasks. Thus she is able to undertake her year's work, confident that if she complies with the specifications, she will be cooperating with the other teachers in a consistent and unified effort to educate the children of the community. Without a course of study a teacher works more or less in the dark. Although, individually the teachers of a school system may be capable, industrious, and conscientious in their work, they will not, except by accident, coordinate their efforts in the best way unless they are provided with a good course of study.

### **General outline of a course of study for a city school system.**

A course of study for a city school system should include the following sections:

**I. Introduction.** This should include a brief consideration of such topics as the general purpose of education, the learning process, the teaching process, the textbook as an instrument of in-

---

engineering." In all of these cases the purpose is to designate the boundaries of a body of subject-matter which may be either large or small.

"Course of study" is the name given to the specifications and directions relating to a given field of instruction. These specifications and directions include in addition to the objectives to be attained (implied in "ground to be covered") directions and suggestions relating to what the teacher should do in getting his students to achieve these objectives.

The course of study may deal with a small body of subject-matter: for example, the "course of study for the first half of the fourth grade in arithmetic." On the other hand, it might refer to the work covering a period of several years, as the "course of study in arithmetic, Grades I to VIII." The term is even used when several subjects are included, as the "course of study for the elementary school."



struction, the function of a course of study, written examinations, the system of grading, and so forth. A statement of the general plan of the course of study may be included.

**II. Program of studies.** This section should contain statements of the subjects to be studied in each grade, the number of minutes per week to be allotted each subject, and the rules governing electives (where elective subjects are provided).

**III. Subject specifications and directions to the teacher.** These should be given separately for each instructional unit of each subject<sup>3</sup> and should include the following items:

1. Specifications: A detailed statement of objectives, namely, what the pupils are to learn. This section may also include an outline of the instructional unit.

2. Directions relative to instruction.<sup>4</sup>

a. Learning exercises.

b. Methods of securing motive and of guiding pupils in learning activities.

The organization of the printed course of study depends somewhat upon the form in which it is issued. When it is published as a single volume, Sections I and II should form the first two chapters. The treatment of "subject specifications and directions to the teacher" may be grouped by grades or by subjects. The latter plan is probably preferable. Some school systems have issued the course of study in monograph form. When this plan is followed Sections I and II should form a separate monograph.

As implied in the discussion of the "function of the course of study," Section III, "subject specifications and directions to the teacher," is most important and the items listed under it are considered at some length in the following pages.

**1. Detailed objectives which pupils are to attain.** The objectives should be stated in terms of pupil achievements. The teacher's objective is to get her pupils to attain the goals set for them. A state-

---

<sup>3</sup>"Instructional unit" is used here to indicate the work in one subject for one year, or for a half year, in case the system is organized on a semester plan. In other words, the "instructional unit" is the unit recognized in making promotions or in counting credit.

<sup>4</sup>It may be urged that this division is superfluous at least for teachers who have had "Methods courses" as a part of their training. If all teachers had received "ideal" professional training this might be true, but under present conditions some "directions relative to instruction" are highly important.

ment of the pages of the textbook to be covered or an outline of the instructional unit implies certain pupil objectives but a serious criticism of this manner of stating objectives is obvious. Covering so many pages of a text or studying the topics specified in an outline is merely a means to the end, the attainment of "abilities to do" such as habits, knowledge of principles, ideals, and so forth.

All objectives should be stated in terms of "ability to do," that is, in terms of specific controls of conduct which the pupils are to acquire. The development of standardized educational tests has made it possible to specify the degrees of certain abilities which pupils are expected to attain in the several grades. For example, in eighth-grade handwriting an objective of a rate of ninety letters per minute with a quality of seventy on the Ayres Handwriting Scale may be specified. Similar standards are available for many abilities in arithmetic, reading, and spelling. In the case of other school subjects, very much progress has been made in determining the detailed abilities to be acquired and the degree of each to be attained in the several grades. However, for certain aspects of algebra, English composition, grammar, foreign language, commercial subjects, history, and physical sciences, available standardized tests do furnish some information which the maker of a course of study for these subjects will find helpful in formulating objectives.

In the case of those divisions of school work for which standardized educational tests do not provide definite objectives, the maker of a course of study should attempt to specify the objective to be attained in as exact terms as possible. Definiteness may be secured in two ways: first, by analyzing general objectives or aims into specific abilities to be acquired; and second, by specifying the degree of attainment in each ability to be achieved at the end of each school year, or at other appropriate intervals.

The use of such general terms as "thoroughly," "mastery," "fully," and so forth should be avoided. Even statements such as "to continue the development of their vocabularies" or "to drill the pupils in good speech habits," are so general and hence so indefinite that they probably mean little to a teacher.

**2. Directions relative to instruction: a. Learning exercises.** Children are educated only by doing learning exercises. Hence the teacher's first responsibility is to devise or select appropriate exercises for her pupils to do. Arithmetic texts are primarily compilations of learning exercises, but the teacher of this subject finds it necessary

to formulate questions and even to plan additional problems. In reading, geography, history, literature, physics, and chemistry the number of learning exercises provided by the author of the text is relatively small; and the teacher must therefore assume the responsibility for devising most of the exercises that she assigns.

The motivation of school work and the guidance of pupils in their learning activities are generally recognized as very potent factors of the educative process, but the scope and character of the learning exercises assigned by the teacher contribute perhaps even more to the success of teaching. When we analyze many of the criticisms of teaching, we find the basic fault to be that the teacher failed to assign appropriate learning exercises. For example, an observer finds children reading aloud from the textbook in class; the questions asked call for memorized statements; games are played which have little or no educative value; children are listening passively to the teacher, and so forth. In each of these instances the fault of the teacher is her failure to assign an appropriate learning exercise.

It is highly important that the course of study include both a consideration of the types of learning exercises which are appropriate in a given subject and suggestions to the teacher relative to devising such exercises. Unfortunately, it is a phase that is frequently overlooked. Many of our present courses of study contain little or no reference to the learning exercises which the teacher should assign. It is, of course, not possible to give teachers detailed directions in regard to the particular questions and other learning exercises which they should assign; but a valuable service can be rendered by illustrating the types of exercises which should be used in a particular subject and by giving general directions concerning their formulation. This service, which constitutes one type of supervision, is particularly valuable to inexperienced teachers.

**b. Methods of securing motive and of guiding pupils in learning activities.** A course of study should not be made a treatise on methods of teaching but practical suggestions relative to teaching techniques will be helpful to most teachers. In addition the course of study should contain references to authoritative sources which teachers may consult if they feel the need for more assistance in this phase of their work. Much of the motivation of school work is accomplished through the assignment of learning exercises. Hence, the technique of making assignments should be treated. After an assign-

ment is made, guidance of pupils in their learning activities involves four types of technique:

1. General directions for study.
2. Evaluation of pupils' performances. This includes calling attention to errors and undesirable procedures employed by the pupil. This technique frequently is called "diagnosis."
3. Assignment of supplementary learning exercises. These include questions, explanations, and illustrations by the teacher,<sup>5</sup> and references to the text or other sources of information. Remedial instruction is frequently used as a name for this technique.
4. Direct assistance by the teacher or another pupil.

**Adaptation of objectives and instruction to individual differences in pupils.** In the treatment of both objectives and instruction there should be some consideration of the differences in the capacities of children belonging to the same grade. Some provision for these individual differences may be made through the general organization of the school, but additional adjustments must be made by the teacher. The course of study should indicate how the teacher is expected to adjust the objectives to pupils who differ from the average in ability and should give suggestions in regard to adaptations of methods of teaching.

**Scientific curriculum construction.** Under the title of curriculum construction a large amount of effort is being devoted to ascertaining what American children should be asked to learn in school. Some workers are expressing their results in the form of "objectives." The most notable list of objectives is that compiled by Bobbitt<sup>6</sup> and originally published as a monograph on curriculum construction in Los Angeles. These objectives, which are for the field of secondary education, are expressed in terms of abilities to be acquired by pupils. Other studies labeled as attempts to determine "minimum essentials" have culminated in lists of specific facts or other items, which should be included in the minimum achievements of school children. Ayres' determination of the 1000 most commonly used words of the English language is representative of a number of studies of this type.

---

<sup>5</sup>In the case of an explanation or illustration, the learning exercise set for the pupil is listening to the teacher talk.

<sup>6</sup>BOBBITT, FRANKLIN. *How to Make a Curriculum*. Boston: Houghton Mifflin Company, 1924. 292 p.



The need for such basic studies is obvious. In spite of the fact that in many ways our schools are conservative, since 1890 a large number of additions to the public-school curriculum have been made in response to public demand. Among the new subjects introduced into the elementary school are elementary science, health work or hygiene, thrift, agriculture, school gardening, manual training, cooking, sewing, modern language, shop work, and physical training. Many topics also have been added to the older studies, particularly history, geography and literature. At the same time relatively few eliminations have been made. The net result is that the curriculum of both the elementary and of the high school is now greatly congested. The amount of subject-matter<sup>7</sup> is too great to be handled effectively within the time available.

Our educational aim has been stated in general terms, and as our schools have been asked to assume increased responsibilities, the additions to the curriculum, at least in the details, have not always been consistent with that aim. Furthermore, the requirements of adult life have changed, and subject-matter that at one time possessed direct value in the education of children has become obsolete or at least is relatively low in the scale of value when compared with more recent additions to the curriculum. In view of the present congested curriculum and the ever-present pressure to include new subject-matter, it is highly imperative that we have a detailed evaluation of the present content of our curriculum and of proposed additions. Furthermore, this evaluation should be made on as objective a basis as possible. For this reason scientific curriculum studies render a valuable service to our schools.

**Relation of scientific curriculum construction to the making of a course of study.** Logically scientific curriculum studies should precede the making of the course of study since they furnish the objectives which constitute a fundamental phase of a course of study. However, scientific curriculum construction is a slow process. So far, we have only fragmentary studies in this field, and many do not appear to be highly reliable. Furthermore, changed economic and social conditions constantly create new curriculum problems, and for this reason we shall never be able to finish the task of constructing our curriculum on a scientific basis.

In the meantime, our schools are in operation and there is need

---

<sup>7</sup>Subject-matter may be considered as descriptions of experiences and controls of conduct. Most of these descriptions are recorded in textbooks.



for the best course of study which can be made at the present time. Those in charge of our schools cannot afford to wait even until the scientific studies now in progress are completed. Neither can they engage in extended investigations preliminary to the making of a course of study. Their problem is to provide the best working specifications they can for the next year. Consequently the maker of a course of study should approach his task with a practical attitude.

The maker of a course of study should not expect much direct and immediate assistance from scientific studies in curriculum construction. Although he should acquaint himself with available reports and seek to acquire the point of view which they represent, the accomplishment of his task depends more upon his efforts in other directions. A teacher's real objectives are reflected in the learning exercises that he sets for his pupils and in his direction of their learning activities. Thus a list of objectives in a course of study has little significance unless the learning exercises and the methods of instruction are compatible with them. For this reason the merit of a course of study is probably determined more by the treatment of learning exercises and of methods of teaching than by the formal statement of objectives.

**Adaptation of objectives to a particular community.** Observation of communities reveals obvious differences in adult activities. In one a large percent of the adults are engaged in mining; in another, manufacturing; in another, agriculture; and so forth. In large cities there are marked differences in the adult activities that are prominent in various sections of the city. Since our general objective in educating children is to prepare them for effective participation in the activities of adult life, it has been asserted that the course of study should be adapted to the needs of the particular community for which it is prepared. Usually this assertion has been interpreted to mean that, in the list of specific objectives, preparation for the particular vocational activities of the community should be given a prominent place.

This point of view is attractive, but the maker of a course of study must avoid carrying its application too far. With the exception of vocational activities, the demands of adult life do not vary greatly from community to community. All speak and read the English language. Adult activities relating to health, recreation, civic responsibilities, home life, and religion are characterized by uniformity rather than by variability. Particular communities are but divisions

of larger communities, the state and the nation. In the case of vocational activities, we must remember that many children will not continue to live in the community in which they received their schooling. Furthermore, those who continue to reside in the same community may change their vocational activities from time to time. Thus, as far as the elementary school is concerned, especially the first six grades, there is little justification for attempting to formulate objectives that are adapted to a particular community. In the case of the high school, some adaptation may be made in those subjects that are designed to prepare in part for vocational activities. However, a careful and unprejudiced inquiry into the needs for training will reveal much less demand for the adaptation of objectives to the local community than some enthusiasts have advocated.

**Adaptation of learning exercises to the local community.** We should distinguish between "adaptation of objectives" and "adaptation of learning exercises." Although this distinction is not usually made, it is an important one. The adaptation of the course of study to the community for which it is prepared, affects the section devoted to learning exercises much more than that devoted to the objectives. A foundation of perceptual experience is a prerequisite for the learning activities required in school and the resources of the community should be capitalized in providing this phase of education. Local activities such as the post office, grocery stores, banks, department stores, the city government, telephone system, manufacturing plants, and so forth may be visited and made the basis of study; but such assignments should be thought of as learning exercises to provide basic experiences. The teacher's objectives extend beyond the mere acquiring of knowledge about the local activities. The experience which pupils acquire in such work should be utilized as a basis in extending their education so that they will be equipped for participation in a broader range of adult activities.

**Making a course of study versus adopting one ready-made.** Since we have minimized the adaptation of the course of study to particular communities, a question arises which may be stated as follows: Assuming that a good course of study has been prepared for the school system of city "B," is it wise for the superintendent in city "A" to adopt it ready-made with little or no change, or should he in cooperation with his teachers prepare a "new" course of study?

Although there are now available a number of courses of study which possess considerable merit, none of them may be considered to

represent perfection. Hence, for the immediate future there is opportunity for a school system to improve upon existing specifications and directions for the education of children. However, there is another and more important reason why each school system should prepare its own course of study. Statements of objectives and directions with reference to learning exercises and methods of instruction will influence the work of the school only as they are understood and followed by the teachers. A group of teachers who engage in the making of a course of study will possess a clearer understanding of its content than is likely to be attained by the teachers of a school system which adopts a course of study ready-made. Furthermore, teachers are likely to be much more in sympathy with specifications and directions which they have had a part in formulating. For these reasons it is advisable for each school system to prepare its own course of study.

**The preparation of a course of study, a means of training teachers in service.** In the education of children, we have emphasized the necessity of a purpose as a prerequisite for effective study. Without a well-defined purpose, a learner's activity will lack direction and essential driving power. Much of the virtue of the "project method," which is advocated by a number of educators, is due to a central purpose around which certain learning exercises are grouped.

Teacher's institutes, the study of reading-circle texts, teacher's meetings, extension courses, and the like are generally recognized as being unsatisfactory means of improving teachers in service. One of the principal reasons for their failure is that in such activities teachers do not have a definite purpose which provides motive and focuses their efforts. In many cases they complain that the work is not practical. The making of a course of study provides a definite purpose for all members of the instructional and supervisory staff. Even if the resulting course of study were not needed for efficient teaching, its construction would constitute a valuable project for the training of teachers. Many superintendents have testified that no other type of work has yielded as valuable results in the training of their teachers while in service.

**Revising the course of study.** Courses of study made in the immediate future are not likely to approach perfection very closely. Hence, revision will be needed from time to time, and failure to do this will tend to prevent progress. On the other hand, revisions can be made too frequently. If the course of study is constantly in a

stage of change, respect for it is likely to be lacking. A course of study should be tried out for a year or two so that its imperfections may be known, and hasty and ill-advised changes should be avoided.

**How to make a course of study.** The details of the plans for the making of a course of study will, of course, depend in part upon local conditions. There are, however, certain features of this procedure which appear to be essential. In the first place, the superintendent should organize his corps of teachers into committees.<sup>8</sup> The number of committees will be determined in part by the size of the teaching staff. There should be one group for the elementary school (Grades I to VI or Grades I to VIII), and a second group for the high school (Grades VII to XII or IX to XII). For each of these groups of committees, there should be a general committee composed of the chairmen of the several committees. The superintendent, or someone designated by him, should serve as the chairman of the general committee for the elementary school. The high-school principal, or some other appropriate person, should serve as chairman of the second general committee. It is desirable that the chairman of each of these general committees be an ex officio member of the other.

A suggestive layout of committees is given for a school system of from forty to seventy-five teachers.

## **SUBJECT COMMITTEES FOR THE ELEMENTARY SCHOOL<sup>9</sup>**

### **Grades I-VI or I-VIII**

- I. Arithmetic
- II. Reading
- III. English (language, grammar, and literature)
- IV. Geography and history
- V. Spelling and handwriting
- VI. Practical and fine arts (drawing, music, manual training, sewing, cooking, etc.)

---

<sup>8</sup>In the case of a large school system it will not be desirable to assign all members of the teaching staff to a committee. However, all divisions of the school system should be adequately represented and except in very large systems all teachers should have some part in the work.

<sup>9</sup>Health work, hygiene, and physical training are to be handled by the high-school committee. This committee, however, should have one or two representatives from Grades I to VI.



## SUBJECT COMMITTEES FOR THE HIGH SCHOOL

### Grades VII-XII or VIII-XII

- I. English, foreign languages, and reading
- II. Social studies including geography
- III. Mathematics and science
- IV. Practical and fine arts (manual training, home economics, commercial subjects, music, and so forth)
- V. Health, physical training, and extra-curricular activities  
(This committee, which will have charge of the course of study for the elementary school, should have one or two representatives from that division of the school system.)

**Adaptation of committee layout to a larger system.** In a large school system, the subject committees designated above as being responsible for two or more subjects should be divided or explicit provisions made for sub-committees. In the case of a committee that is responsible for only one subject, such as reading or arithmetic, a division of labor may be desirable, but the superintendent should bear in mind that the larger the number of committees the more difficult it will be to secure a consistent point of view and a unified course of study.

**Method of appointing committees.** The superintendent should first select the chairmen of the several committees. In doing this he should bear in mind the need that a chairman possess the quality of leadership, and that he have an intimate acquaintance with the subject or subjects with which the committee is to deal. After the chairmen have been selected, it is wise for the superintendent to secure an expression of preference from the remaining members of the teaching staff, and to recognize this preference, as far as possible in making assignments. In the committees for the elementary school, it is desirable that there be a representative from each of the grades in which the subjects to be considered are taught. In the high school, the subjects taught will determine the committee assignments to a large extent. A few teachers from the elementary school also may be assigned to high-school committees, particularly those having to do with English, social studies, and mathematics.

**Provision for expert leadership.** It is important that provision be made for expert leadership. Unless the superintendent or some member of the staff has made an extensive study of curriculum construction and other problems relating to the making of a course of



study, the services of some competent person from outside the system should be secured. Even if such an individual meets with the various committees only occasionally, his services are decidedly worth while. In addition to guiding the various committees in their work, he will provide a stimulus that usually cannot be secured if home talent is depended upon entirely.

**The task of the general committees.** In addition to their functions of stimulating and guiding the work of the subject committees, the members of the two general committees should assume the responsibility for the preparation of the first two sections of the course of study indicated on pages 4, 5. It will be helpful to have these sections prepared first and placed in the hands of the subject committees. The general committees also should fulfil an editorial function with reference to the manuscripts submitted by the subject committees.

**The task of the subject committees.** The tasks for the subject committees are implied in the description of a course of study given on pages 5-8. These tasks fall under three general headings:

1. Formulation of detailed objectives including definite standards of attainment so far as possible. In case the textbook has not already been selected, the choice of a suitable text will form one of the responsibilities under this head.

2. Suggestions with reference to learning exercises, particularly in those subjects for which the text provides only a limited number. A subject committee should not attempt to formulate all of the learning exercises which a teacher is expected to use, but should rather confine its efforts to presenting illustrative types of exercises and suggestions for devising them.

3. Suggestions with reference to methods of teaching. A committee may render valuable service by suggesting means for securing motivation and procedures to be followed in evaluating pupil achievements. Illustrative sets of examination questions, and other exercises suitable for testing purposes are appropriate. Instructions in regard to the handling of written work also may be prepared. Adaptation of subject-matter and instruction to individual differences should not be over-looked.

**Executing the task of the committees.** It is of course obvious that, in a brief pamphlet, detailed directions cannot be given for

executing the various tasks involved in the making of a course of study. The Bureau of Educational Research plans to issue a series of circulars dealing with the more important subjects of the curriculum. Those for arithmetic and reading will be ready for distribution early in the school year of 1925-26. The following general suggestions are offered:

I. Each member of a committee, particularly the members of the general committees, should acquire a clear understanding of the purpose of public education. One or more books dealing with this topic should be studied carefully (see bibliography pages 18-21).

II. All members of committees should seek to acquire a clear concept of the learning process and of the teaching process. The brief statements in the preceding pages are very general and should be supplemented by a careful study of such a book as Bagley and Keith, *An Introduction to Teaching*.<sup>10</sup>

III. Each member of a committee should seek to acquire a clear understanding of the nature and function of the outcomes of learning, particularly those resulting from instruction in the subject for which he is attempting to formulate a course of study.

IV. The members of the committees should secure and examine carefully a number of the better courses of study in order to become acquainted with the specifications that have been prepared in other school systems (see bibliography pages 21-35).

V. In the case of those subjects for which standardized tests are available, the members of the committees should secure a statement of the standards that have been derived. It may not be advisable to incorporate these standards directly in the course of study, but with them as a basis, definite objectives may easily be formulated.

VI. Each teacher should study at least one book on special methods for the purpose of securing information with reference to each of the three phases of the course of study. It is also helpful to consult textbooks other than the one used. However, the examination of a large number of textbooks will not usually be very profitable (see bibliography pages 21-35).

---

<sup>10</sup>In connection with this topic read Bagley, William C. and Keith, John A. H. *An Introduction to Teaching*. New York: The Macmillan Company, 1924. 400 p.

VII. If the facilities permit and if there is time for the work, it will be helpful to read some of the accounts of scientific curriculum construction. However, as we have previously indicated, the amount of immediate assistance offered by such sources will not usually be very great.

**Writing a course of study.** Care should be exercised in writing a course of study. All statements should be made sufficiently precise and complete that a teacher will experience no difficulty in understanding the specifications and directions relative to her work. Since the members of the committees will become very familiar with the section of the course of study which they are preparing, they are likely to make statements that are too abbreviated to be easily understood or even to omit entire statements that are essential to a clear understanding. A course of study will influence the work of a school system only as it is understood by the teachers and its effectiveness is conditioned by the clearness and forcefulness of the writing.<sup>11</sup>

---

<sup>11</sup>Some suggestions relative to educational writing will be found in Bulletin No. 25.

MONROE, WALTER S., and JOHNSTON, NELL BOMAR. "Reporting educational research," University of Illinois Bulletin, Vol. 22, No. 38, Bureau of Educational Research Bulletin No. 25. Urbana: University of Illinois, 1925. 64 p.

## BIBLIOGRAPHY<sup>1</sup>

**Introductory note.** It has been suggested, page 16, that those who prepare courses of study should familiarize themselves with (1) a number of the better courses of study, (2) available standardized tests, (3) at least one book on special methods, and when possible (4) some accounts of scientific curriculum making. The following bibliography is given for the purpose of providing usable references relative to these four aspects.

Some references are given at first which have to do with the general problem of curriculum construction. These are divided according to the three divisions of the school system: elementary school, junior high school, and senior high school. Within these three groups, distinction is made between "foundational" and "supplementary" references. As the classifications indicate, those labeled as "foundational" are considered essential to anyone who is making revisions in curricula or courses of study; those listed as "supplementary" contain valuable suggestions for one who is able to make a more exhaustive study of the subject.

The bulk of the bibliography is composed of references on special methods, courses of study, standards of attainment, and scientific curriculum studies in the various school subjects. The references have been carefully selected and only those considered worth while are included. The courses of study referred to are not perfect, but they are the best available at present. They illustrate many of the best principles of course-of-study making and all possess considerable merit.

### I. GENERAL PRINCIPLES OF CURRICULUM CONSTRUCTION

#### 1. Elementary School

##### **Foundational:**

BOBBITT, FRANKLIN. *How to Make a Curriculum*. Chicago: Houghton Mifflin Company, 1924, p. 1-75.

CHARTERS, W. W. *Curriculum Construction*. New York: The Macmillan Company, 1923, p. 3-55, 94-112, 137-68.

---

<sup>1</sup>Credit for compiling the following bibliography is given to M. E. HERRIOTT, Associate, Bureau of Educational Research.

- McMURRY, CHARLES A. *How to Organize the Curriculum*. New York: The Macmillan Company, 1923. 358 p.
- THRELKELD, A. L. "Curriculum revision: how a particular city may attack the problem," *Elementary School Journal*, 25:573-82, April, 1925.

**Supplementary:**

- BOBBITT, FRANKLIN. *The Curriculum*. Boston: Houghton Mifflin Company, 1918, p. 3-52, 117-289.
- BONSER, FREDERICK GORDON. *The Elementary School Curriculum*. New York: The Macmillan Company, 1920. 466 p.
- MERIAM, JUNIUS LATHROP. *Child Life and the Curriculum*. Yonkers, New York: World Book Company, 1920, 3-135.
- "The elementary school curriculum." *Second Yearbook of the Department of Superintendence*. Washington: Department of Superintendence of the National Education Association, 1924. 296 p.
- "Facts on the public school curriculum." *Research Bulletin of the National Education Association*, Vol. I, No. 5. Washington: Research Division of the National Education Association, 1923, p. 310-50.
- "Research in constructing the elementary school curriculum." *Third Yearbook of the Department of Superintendence*. Washington: Department of Superintendence of the National Education Association, 1925. 424 p.
- TEACHERS OF HORACE MANN ELEMENTARY SCHOOL. "The curriculum of the Horace Mann Elementary School," *Teachers College Record*, 14:1-109, May, 1913.

## 2. Junior High School

**Foundational:**

- BRIGGS, THOMAS H. *The Junior High School*. Boston: Houghton Mifflin Company, 1920. 350 p.
- DAVIS, CALVIN O. *Junior High School Education*. Yonkers, New York: World Book Company, 1924. 451 p.
- KOOS, LEONARD V. *The Junior High School*. New York: Harcourt, Brace and Howe, 1920. 179 p.

**Supplementary:**

- BUNKER, F. F. "Reorganization of the public school system." *U. S. Bureau of Education Bulletin*, 1916, No. 8. Washington: Government Printing Office, 1916. 186 p.



- CLEMENT, JOHN ADDISON. "Summary of organization and administration of forty junior-high-school systems in Kansas," *Educational Administration and Supervision*, 8:137-42, March, 1922.
- COX, P. W. L. "The Solvay Junior High School," *Educational Administration and Supervision*, 1:619-22, November, 1915.
- DEFFENBAUGH, W. S. "Specimen junior-high-school programs of study." U. S. Bureau of Education Bulletin, 1923, No. 21. Washington: Government Printing Office, 1923. 28 p.
- DOUGLASS, A. A. "The junior high school," *Fifteenth Yearbook of the National Society for the Study of Education*, Part III. Bloomington, Illinois: Public School Publishing Company, 1916. 157 p.
- LYMAN, R. L. "The junior high schools of Montclair, New Jersey," *School Review*, 29:495-509, September, 1921.
- LYMAN, R. L. "The Washington Junior High School, Rochester, New York," *School Review*, 28:178-204, March, 1920.
- WILSON, H. B., and others. "Junior high schools of Berkeley, California." U. S. Bureau of Education Bulletin, 1923, No. 4. Washington: Government Printing Office, 1923. 48 p.
- "Facts on the public school curriculum." *Research Bulletin of the National Education Association*, Vol. I, No. 5. Washington: Research Division of the National Education Association, 1923, p. 310-50.

### 3. Senior High School

#### Foundational:

- BOBBITT, FRANKLIN. *How to Make a Curriculum*. Boston: Houghton Mifflin Company, 1924. 292 p.
- CHARTERS, W. W. *Curriculum Construction*. New York: The Mac-Millan Company, 1923, p. 3-55, 94-112.
- "Cardinal principles of secondary education." U. S. Bureau of Education Bulletin, 1918, No. 35. Washington: Government Printing Office, 1918. 32 p.

#### Supplementary:

- BOBBITT, FRANKLIN. *The Curriculum*. Boston: Houghton Mifflin Company, 1918. 295 p.
- CLEMENT, JOHN ADDISON. *Curriculum Making in Secondary Schools*. New York: Henry Holt and Company, 1923. 534 p.

## II. METHOD OF TEACHING, COURSES OF STUDY, AND STANDARDS OF ATTAINMENT IN SPECIFIC SUBJECTS

### 1. Elementary School

#### Grades 1-6

##### A. General and unclassified:

DOHERTY, MARGARET and MACLATCHY, JOSEPHINE. "Bibliography of educational and psychological tests and measurements." U. S. Bureau of Education Bulletin, 1924, No. 55. Washington: Government Printing Office, 1924. 233 p.

KENDALL, C. N. and MIRICK, G. A. How to Teach the Fundamental Subjects. Boston: Houghton Mifflin Company, 1915. 329 p.

ODELL, CHARLES W. "Educational tests for use in elementary schools, revised." University of Illinois Bulletin, Vol. 22, No. 16. Bureau of Educational Research Circular No. 33. Urbana: University of Illinois, 1924. 22 p.

ODELL, CHARLES W. "Educational tests for use in high schools, revised." University of Illinois Bulletin, Vol. 22, No. 37. Bureau of Educational Research Circular No. 34. Urbana: University of Illinois, 1925. 19 p.

PARKER, SAMUEL CHESTER. General Methods of Teaching in Elementary Schools. Boston: Ginn and Company, 1922. 336 p.

PARKER, SAMUEL CHESTER. Types of Elementary Teaching and Learning. Boston: Ginn and Company, 1923. 585 p.

The Bureau of Cooperative Research, Indiana University. (Compiled by) "Bibliography of educational measurements." Indianapolis: Wm. B. Burford, 1923. 120 p.

On minimal essentials: Fourteenth Yearbook of the National Society for the Study of Education, Part I; Sixteenth Yearbook, Part I; Seventeenth Yearbook, Part I; and Eighteenth Yearbook, Part II. Bloomington, Illinois: Public School Publishing Company, 1915, 1917, 1918, 1919.

"The Speyer school curriculum." New York: Teachers College, Columbia University, 1913. 179 p.

"Synopsis of course of study, 1923, in elementary and junior high schools." Berkeley, California: Board of Education, 1923. 63 p.

##### B. Arithmetic:

BROWN, J. C. and COFFMAN, L. D. How to Teach Arithmetic. Chicago: Row, Peterson and Company, 1914. 373 p.

- KLAPPER, P. *The Teaching of Arithmetic*. New York: D. Appleton and Company, 1916.
- LENNES, N. J. *The Teaching of Arithmetic*. New York: The Macmillan Company, 1923. 486 p.
- MONROE, W. S., DEVOSS, J. C., and KELLY, F. J. *Educational Tests and Measurements*. (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 19-93.
- OSBURN, WORTH J. *Corrective Arithmetic*. Boston: Houghton Mifflin Company, 1924. 182 p.
- THORNDIKE, E. L. *The New Methods in Arithmetic*. Chicago: Rand, McNally and Company, 1921. 260 p.
- "Arithmetic" Course of Study Monographs, Elementary Schools, No. 1. Berkeley, California: Board of Education, 1921. 91 p.
- "Arithmetic—course of study for grades four, five, and six." Baltimore, Maryland: Board of Education, 1924. 111 p.
- "Arithmetic—elementary course of study." Trenton, New Jersey: Board of Education, 1923. 96 p.
- "Arithmetic—grades 1, 2, 3, 4, 5, and 6—course of study monograph." Denver: Board of Education, 1924. 228 p.
- "Arithmetic—syllabus for elementary schools." University of the State of New York Bulletin, No. 815. Albany: University of the State of New York Press, 1925. 121 p.
- "Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore, Maryland: Warwick and York, 1921, p. 261-329.
- "Geography—history—arithmetic—course of study for kindergarten and grades one, two, and three," Baltimore, Maryland: Department of Education, 1924. 78 p.
- C. Fine and Industrial Arts:**
- FARNSWORTH, C. H. *How to Study Music*. New York: The Macmillan Company, 1920. 294 p.
- McMURRY, OSCAR L., EDGERS, GEORGE W., and McMURRY, CHARLES A. *Teaching of Industrial Arts in the Elementary School*. New York: The Macmillan Company, 1923. 357 p.
- SARGENT, WALTER, and MILLER, ELIZABETH. *How Children Learn to Draw*. Boston: Ginn and Company, 1916. 264 p.

SARGENT, WALTER, MILLER, ELIZABETH E. and GORDON, MARGARET.  
"Course of study in drawing in the elementary school, school of education, the University of Chicago. I-II-III-IV," *Elementary School Journal*, 16:412-23, 475-90, 533-41; April, May, June, 1916; 17: 35-43, September, 1916.

SEASHORE, C. E. *The Psychology of Musical Talent*. Boston: Silver, Burdett and Company, 1919. 288 p.

WHITFORD, W. G. "Curriculum-building in art," *Elementary School Journal*, 21: 288, December, 1920.

"Art course." Fort Wayne, Indiana: Board of Education, 1920. 71 p.

"Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore, Maryland: Warwick and York, 1921, p. 593-671, 688-98.

"Course of study in drawing and applied art." Cleveland: Board of Education, 1915. 24 p.

"Course of study, fine and industrial arts." Denver: Board of Education, 1918. 38 p.

"Fine and industrial arts—grades one-six." St. Cloud, Minnesota: Board of Education, 1924. 288 p.

"Manual of instruction and interpretations for measures of musical talent." The Columbia Graphophone Company, 1919.

#### **D. Geography:**

ATWOOD, W. W., and THOMAS, H. G. *Teaching the New Geography*, Boston: Ginn and Company, 1921.

BRANOM, M. E. and F. K. *The Teaching of Geography*. Boston: Ginn and Company, 1921. 292 p.

DODGE, R. E. and KIRCHWEY, C. B. *The Teaching of Geography in Elementary Schools*. Chicago: Rand, McNally and Company, 1913. 248 p.

MONROE, W. S., DEVOSS, J. C., and KELLY, F. J. *Educational Tests and Measurements*. (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 272-82.

SMITH, EDWARD E. *Teaching Geography by Problems*. Garden City, New York: Doubleday, Page and Company, 1922. 306 p.

"Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore, Maryland: Warwick and York, 1921, p. 158-216.

- "Course of study in geographic, biographic, and historic Pittsburgh—teacher's manual." Pittsburgh: Board of Public Education, 1921. 29 p.
- "Course of study in geography." Lawrence, Kansas: Board of Education. (No date given, but new.) 66 p. (Mimeographed.)
- "The course of study in geography and nature study—grades one to six." Philadelphia: Board of Public Education, 1920, p. 30-119.
- "Geography—course of study for grades four, five, and six." Baltimore, Maryland: Department of Education, 1924. 74 p.
- "Geography," Course of Study Monograph, Elementary Schools, No. 4. Berkeley, California: Board of Education, 1921. 117 p.
- "An outline of the course in geography in the University Elementary School," Elementary School Journal, 18:11-30, 115-32, 186-205, 268-79; September, October, November, December, 1917.

#### **E. Health and Physical Education:**

- CLARK, LYDIA. Physical Training for the Elementary Schools. Chicago: Benj. H. Sanborn and Company, 1920. 415 p.
- STALEY, S. C. and LOWERY, D. M. Manual of Gymnastic Dancing. New York: Association Press, 1920. 212 p.
- "Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore, Maryland: Warwick and York, 1921, p. 346-403.
- "Course of study in physical training—elementary schools." Lincoln Nebraska: Board of Education, 1919. 68 p.
- "The course of study in health education—grades one to six." Philadelphia: Board of Public Education, 1923. 130 p.
- "Course of study in school health—physical education, Grades I-VIII." Harrisburg, Pennsylvania: Department of Public Instruction, 1923. 291 p.
- "General plan and syllabus for physical training in the elementary and secondary schools of the state of New York." University of the State of New York Bulletin, No. 724. Albany: University of the State of New York, 1920. 424 p.
- "Lessons in hygiene and sanitation for grades 1-8." Louisville, Kentucky: Public Schools, 1919. 75 p.
- "Lessons in physical education for elementary grades." Educational Publication, No. 66, Division of Publication, No. 13. Raleigh, North Carolina: State Superintendent of Public Instruction. (No date given, but new.) 125 p.



"Physical education, including hygiene." Course of Study for Elementary and Junior High Schools, Course of Study Monographs, Elementary and Junior High School, No. 9. Berkeley, California: Board of Education, 1923. 63 p.

"Syllabus in hygiene for kindergarten and first six elementary grades." University of the State of New York Bulletin, No. 748. Albany: University of the State of New York, 1921. 135 p.

#### **F. History and Other Social Studies:**

HILL, HOWARD C. Community Life and Civic Problems. Boston: Ginn and Company, 1922. 528 p.

HORN, E. "Principles of making curricula in history," Teachers College Record, 16:339-45, September, 1915.

MONROE, W. S., DEVOSS, J. C., and KELLY, F. J. Educational Tests and Measurements. (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 282-96.

UPTON, S. M., and CHASSELL, C. F. "A scale for measuring the importance of habits of good citizenship, with practical applications to a report card," Teachers College Record, 20:36-65, January, 1919; 23:52-79, January, 1922.

"Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore: Warwick and York, 1921, p. 412-592.

"Course of study in community life, history and civics in the Elementary School of the University of Chicago," Elementary School Journal, 17:397-431, 485-520, 550-75, 627-49; February, March, April, May, 1917.

"The course of study in civics—grades one to six." Philadelphia: Board of Public Education, 1924. 72 p.

"Course of study in geographic, biographic and historic Pittsburgh—teacher's manual." Pittsburgh: Board of Public Education, 1921, 29 p.

"The course of study in history—grades one to eight." Philadelphia: Board of Public Education, 1924. 158 p.

"History and civics," Course of Study Monographs, Elementary Schools, No. 6. Berkeley, California: Board of Education, 1922. 103 p.

"History—course of study for grades four, five, and six." Baltimore, Maryland: Department of Education, 1924. 103 p.

"The social studies in the elementary and secondary school." Twenty-Second Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1923. 344 p.

"Suggestive outlines in elementary history, Grades I-VIII." School Publication, No. 22. Los Angeles: Board of Education, 1919. 55 p.

#### **G. Home Economics:**

HANNA, AGNES K. Home Economics in the Elementary and Secondary Schools. Boston: Whitcomb and Barrows, 1922. 327 p.

"Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore, Maryland: Warwick and York, 1921, p. 672-87.

"Home economics." Course of Study Monographs, Elementary Intermediate, and High Schools, No. 2. Berkeley, California: Board of Education, 1921. 56 p.

"Home economics." State Course of Study for Elementary and Secondary Schools of Indiana. Indianapolis: State Department of Public Instruction, 1917. 44 p.

#### **H. Language, Grammar and Composition:**

BREED, F. S., and FROSTIC, F. W. "A scale of measuring English composition in the sixth grade," Elementary School Journal, 17:307-25, January, 1917.

KING, CORA E. "Favorite poems of children of the elementary school age," Teachers College Record, 23:255-73, May, 1922.

MCGREGOR, A. LAURA. Supervised Study in English. Chicago: The Macmillan Company, 1921.

MONROE, W. S., DEVOSS, J. C., and KELLY, F. J. Educational Tests and Measurements (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 240-71.

"Course of study in primary language." Superior, Wisconsin: Board of Education, 1920. 124 p.

"English—course of study for grades four, five, and six." Baltimore, Maryland: Department of Education, 1924. 118 p.

"English, literature and spelling—elementary course of study." Trenton, New Jersey: Board of Education, 1923. 124 p.

"Outline course of study in English." Rochester, New York: Board of Education, 1917. 182 p.

"Reading—composition—literature—spelling—handwriting—course of study for kindergarten and grades one, two, and three." Baltimore, Maryland: Department of Education, 1924. 72 p.

#### **I. Nature Study and Science:**

PARKER, BERTHA M. "The course in nature-study and science in the University Elementary School," *Elementary School Journal*, 24:116-25, 197-205, 290-300, 368-81; October, November, December, 1923, January, 1924.

"Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore, Maryland: Warwick and York, 1921, p. 217-60.

"The course of study in geography and nature study—grades one to six." Philadelphia: Board of Public Education, 1920. 119 p.

"Course of study in science in the University of Chicago Elementary School," *Elementary School Journal*, 18:410-22, 493-504, 571-86; February, March, April, 1918.

"Elementary course in science." Pittsburgh: Board of Public Education, 1921. 71p.

"Nature Study." *Course of Study Monographs, Elementary Schools*, No. 3. Berkeley, California: Board of Education, 1921. 104 p.

#### **J. Reading:**

GERMANE, CHARLES E. and GERMANE, EDITH GAYTON. *Silent Reading: A Handbook for Teachers*. Chicago: Row, Peterson and Company, 1922. 383 p.

GRAY, WILLIAM S. "Reading in the elementary schools of Indianapolis," *Elementary School Journal*, 19:608-27, April, 1919.

LEONARD, STERLING ANDREWS. *Essential Principles of Teaching Reading and Literature*. Philadelphia: J. B. Lippincott Company, 1922. 460 p.

MONROE, W. S., DeVoss, J. C., and KELLY, F. J. *Educational Tests and Measurements*. (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 94-154.

STONE, CLARENCE R. *Silent and Oral Reading*. Chicago: Houghton Mifflin Company, 1922. 306 p.

WATKINS, EMMA. *How to Teach Reading to Beginners*. Philadelphia: J. B. Lippincott Company, 1922. 133 p.

WHEAT, HARRY GROVE. *The Teaching of Reading; A Textbook of Principles and Methods*. Boston: Ginn and Company, 1923. 346 p.

- WILEY, J. A. *Practice Exercises in Supervised Study and Assimilative Reading*. Cedar Falls, Iowa: J. A. Wiley, 1922. 112 p.
- "Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore: Warwick and York, 1921, p. 1-82.
- "A reading course for the elementary schools of the state of New York." (Revised edition.) Albany: New York State University, 1922. 15 p.
- "Reading and literature—elementary course of study." Trenton, New Jersey: Board of Education, 1924. 169 p.
- "Reading in the Saint Cloud public schools—grades one to six." St. Cloud, Minnesota: Board of Education, 1924. 162 p. (160 additional pages of tests.)
- "Report of the national committee on reading." Twenty-Fourth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1925. 357 p.
- K. Spelling and Handwriting:**
- ASHBAUGH, E. J. "Iowa Spelling Scale." *University of Iowa Extension Bulletin*, Series 1, No. 24. Iowa City: University of Iowa, 1918. 16 p.
- COURTIS, S. A. *Teaching Spelling by Plays and Games*. 82 Eliot Street, Detroit: S. A. Curtis, 1917.
- FREEMAN, FRANK N. "A course in handwriting," *Elementary School Journal*. 22: 372-79, 441-50, 521-29, 597-607; January, February, March, April, 1922.
- FREEMAN, FRANK N. "The teaching of handwriting," *Elementary School Journal*, 24:38-49, September, 1923.
- FREEMAN, FRANK N. and DAUGHERTY, MARY L. *How to Teach Handwriting*. Boston: Houghton Mifflin Company, 1923. 305 p.
- MONROE, W. S., DEVOSS, J. C., and KELLY, F. J. *Educational Tests and Measurements*. (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 155-239.
- TIDYMAN, W. F. *The Teaching of Spelling*. Yonkers, New York: World Book Company, 1919. 178 p.
- "Course of study, public schools, Baltimore County, Maryland, Grades I-VIII." Baltimore: Warwick and York, 1921. p. 141-57, 330-45.
- "A course of study in handwriting for elementary schools." Boston: Department of Education, 1920. 23 p.

- "Handwriting—teachers' manual and outline of lessons." Philadelphia: Board of Public Education, 1923. 90 p.
- "Penmanship." Course of Study Monographs, Elementary Schools, No. 5. Berkeley, California: Board of Education, 1921. 28 p.

## 2. Secondary School

### Grades 7-12

#### A. General and unclassified:

- DOHERTY, MARGARET and MACLATCHY, JOSEPHINE. "Bibliography of educational and psychological tests and measurements." U. S. Bureau of Education Bulletin, 1924, No. 55. Washington: Government Printing Office, 1924. 233 p.
- MONROE, W. S., DEVOSS, J. C., and KELLY, F. J. Educational Tests and Measurements. (Revised edition.) Boston: Houghton Mifflin Company, 1924, p. 297-331.
- ODELL, CHARLES W. "Educational tests for use in elementary schools, revised." University of Illinois Bulletin, Vol. 22, No. 16. Bureau of Educational Research Circular No. 33. Urbana: University of Illinois, 1924. 22p.
- ODELL, CHARLES W. "Educational tests for use in high schools, revised." University of Illinois Bulletin, Vol. 22, No. 37. Bureau of Educational Research Circular No. 34. Urbana: University of Illinois, 1925. 19 p.
- The Bureau of Cooperative Research, Indiana University. (Compiled by) "Bibliography of educational measurements." Indianapolis: Wm. B. Burford, 1923. 120 p.
- "Manual, San Diego High School." San Diego, California: Board of Education, 1918-19. 61 p.
- "Provisional course of study for junior high schools." Rochester, New York: Board of Education, 1919. 160 p.

#### B. Agriculture:

- NOLAN, ARETAS W. The Teaching of Agriculture. Boston: Houghton Mifflin Company, 1918. 277 p.
- STIMSON, RUFUS W. Teaching Vocational Agriculture. New York: The Macmillan Company, 1921.
- STORM, A. V., and DAVIS, K. C. How to Teach Agriculture. Philadelphia: J. B. Lippincott Company, 1921. 434 p.



Commission on Reorganization of Secondary Education. "Agriculture in secondary schools." U. S. Bureau of Education Bulletin, 1920, No. 35. Washington: Government Printing Office, 1920.

### **C. Commercial:**

MARVIN, CLOYD HECK. Commercial Education in Secondary Schools. New York: Henry Holt and Company, 1922. 216 p.

WALTERS, R. G. High School Commercial Education. New York: I. Pitman and Sons, 1923. 261 p.

WELCH, ARNON W. Commercial Program of Studies for High Schools. New York: Gregg Publishing Company, 1922. 32 p.

Commission on Reorganization of Secondary Education. "Business education in secondary schools." U. S. Bureau of Education Bulletin, 1919, No. 55. Washington: Government Printing Office, 1919. 68 p.

### **D. English:**

BOLENIUS, EMMA M. Teaching of Literature in the Grammar Grades and High School. Boston: Houghton Mifflin Company.

FAIRCHILD, ARTHUR H. R. The Teaching of Poetry in the High School. Boston: Houghton Mifflin Company, 1914. 103 p.

LEONARD, S. A. English Composition as a Social Problem. Boston: Houghton Mifflin Company, 1917. 201 p.

STRATTON, CLARENCE. The Teaching of English in High School. New York: Harcourt, Brace and Company, 1923. 383 p.

THOMAS, CHARLES S. The Teaching of English in High School. Boston: Houghton Mifflin Company.

Commission on Reorganization of Secondary Education. "Reorganization of English in secondary schools." U. S. Bureau of Education Bulletin, 1917, No. 2. Washington: Government Printing Office, 1917. 181 p.

"English—course of study for junior and senior high schools." Baltimore, Maryland: Department of Education, 1924. 252 p.

"English, history, science, mathematics, foreign language." Course of Study Monographs, Junior High Schools, No. 1. Berkeley, California: Board of Education, 1922. 132 p.

"Report upon methods of teaching English in Illinois high schools." Bulletin of the Illinois Association of Teachers of English, Vol. 16, No. 8, 1-12; Vol. 17, No. 1, 1-11. Urbana, Illinois: Illinois Association of Teachers of English, 1924.

### **E. Extra-Curricular:**

BRIGGS, THOMAS H. "Extra-curricular activities in junior high schools," *Educational Administration and Supervision*, 8:1-9, January, 1922.

FRETWELL, ELBERT K. "Extra-curricular activities of secondary schools," *Teachers College Record*, 24:60-72, 147-48, January, March, 1923.

HOBSON, CLAY S. "An experiment in organization and administration of high-school extra-curricular activities," *School Review*, 31:116-24, February, 1923.

LEWIS, GRACE T. "Centralizing student activities in the high school," *School Review*, 31:612-26, October, 1923. (Describes the plan of the Mount Vernon, New York, high school.)

WILDS, ELMER H. "The supervision of extra-curricular activities," *School Review*, 25:659-73, November, 1917.

### **F. Fine and Industrial Arts:**

WINSLOW, LEON L. "Program for schools offering approved courses in art in the junior high school grades," *Industrial-Arts Magazine*, 12:367-68, September, 1923.

Commission and Reorganization of Secondary Education. "Music in secondary schools." U. S. Bureau of Education Bulletin, 1917, No. 49. Washington: Government Printing Office, 1917. 37 p.

### **G. Foreign Languages:**

BAGSTER-COLLINS, E. W. *The Teaching of German in Secondary Schools*. New York: The Macmillan Company, 1904.

BAHLEN, L. *The Teaching of Modern Languages*. Boston: Ginn and Company, 1905. 97 p.

HANDSCHIN, C. H. "The teaching of modern languages in the United States." U. S. Bureau of Education Bulletin, 1913, No. 3. Washington: Government Printing Office, 1913. 154 p.

"English, history, science, mathematics, foreign language," *Course of Study Monographs, Junior High Schools*, No. 1. Berkeley, California: Board of Education, 1922. 132 p.

"Latin—course of study for senior and junior high schools." Baltimore, Maryland: Department of Education, 1924. 58 p.

### **H. Home Economics:**

HANNA, AGNES K. *Home Economics in the Elementary and Secondary Schools*. Boston: Whitcomb and Barrows, 1922. 327 p.

Commission on Reorganization of Secondary Education. Reorganization of home economics in secondary schools." U. S. Bureau of Education Bulletin, 1922, No. 5. Washington: Government Printing Office, 1922. 38 p.

"Home economics." Course of Study Monographs, Elementary, Intermediate, and High Schools, No. 2. Berkeley, California: Board of Education, 1921. 56 p.

"Home economics." State Course of Study for Elementary and Secondary Schools of Indiana. Indianapolis: State Department of Public Instruction, 1917. 44 p.

### **I. Mathematics:**

BRESHLICH, E. R. "Supervised study as a means of providing supplementary individual instruction." Thirteenth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1914, p. 32-72.

MORRISON, H. C. "Reconstructed mathematics in the high school." Thirteenth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1914, p. 9-31.

SCHULTZE, A. The Teaching of Mathematics in Secondary Schools. New York: The Macmillan Company, 1912. 289 p.

SMITH, DAVID E. The Teaching of Geometry. Boston: Ginn and Company, 1911. 339 p.

Commission on Reorganization of Secondary Education. "The problem of mathematics in secondary education." U. S. Bureau of Education Bulletin, 1920, No. 1. Washington: Government Printing Office, 1920. 24 p.

"Mathematics—course of study for senior and junior high schools." Baltimore, Maryland: Department of Education, 1924. 169 p.

"Mathematics—secondary course of study—grades seven-eight-nine." Trenton, New Jersey: Board of Education, 1923. 118 p.

National Committee on Mathematical Requirements. "The reorganization of mathematics in secondary education." A report . . . under auspices of the Mathematical Association of America. Hanover, New Hampshire: The Mathematical Association of America, 1923. 652 p.

### **J. Physical Education:**

Commission on Reorganization of Secondary Education. "Physical education in secondary schools." U. S. Bureau of Education Bulletin, 1917, No. 50. Washington: Government Printing Office, 1917. 24 p.

"The course of study in civics—grades seven and eight." Philadelphia: Board of Public Education, 1917. 145 p.

"History—secondary course of study—grades seven, eight." Trenton, New Jersey: Board of Education, 1924. 76 p.

"Physical education, including hygiene," Course of Study Monographs, Elementary and Junior High Schools, No. 9. Berkeley, California: Board of Education, 1923. 63 p.

"Social study syllabus in the junior and senior high schools." Lawrence, Kansas: Board of Education, 1924. (Mimeographed.)

### **K. Science:**

EIKENBERRY, W. L. The Teaching of General Science. Chicago: The University of Chicago Press, 1922. 169 p.

MANN, C. R. The Teaching of Physics. New York: The Macmillan Company, 1912. 304 p.

TWISS, GEORGE RANSOM. Science Teaching. New York: The Macmillan Company, 1921. 486 p.

WATKINS, RALPH KNAPP. The Technique and Value of Project Teaching in General Science. Columbia, Missouri: Missouri Stores Co. 99 p. (Reprint from General Science Quarterly, 1923-24.)

WOODHULL, JOHN F. The Teaching of Science. New York: The Macmillan Company, 1918.

Commission on Reorganization of Secondary Education. "Reorganization of science in secondary schools." U. S. Bureau of Educational Bulletin, 1920, No. 25. Washington: Government Printing Office, 1920. 62 p.

"English, history, science, mathematics, foreign language." Course of Study Monographs, Junior High Schools, No. 1. Berkeley, California: Board of Education, 1922. 132 p.

"Science—secondary course of study." Trenton, New Jersey: Board of Education, 1923. 98 p.

### **L. Social Studies:**

HILL, H. C. Community Life and Civic Problems. Boston: Ginn and Company, 1922. 528 p.

- MONROE, WALTER S., and FOSTER, I. O. "The status of the social studies in the high schools of the North Central Association." *University of Illinois Bulletin*, Vol. 20, No. 18, Bureau of Educational Research Bulletin, No. 13. Urbana: University of Illinois, 1923. 38 p.
- TRYON, R. M. *The Teaching of History in Junior and Senior High Schools*. Boston: Ginn and Company, 1921. 294 p.
- "American history—secondary course of study." Trenton, New Jersey: Board of Education, 1923. 72 p.
- Commission on Reorganization of Secondary Education. "The social studies in secondary education." *U. S. Bureau of Education Bulletin*, 1916, No. 28. Washington: Government Printing Office, 1916. 63 p.
- Commission on Reorganization of Secondary Education. "The teaching of community civics." *U. S. Bureau of Education Bulletin*, 1915, No. 28. Washington: Government Printing Office, 1915. 55 p.
- Commission on Reorganization of Secondary Education. "Vocational guidance in secondary education." *U. S. Bureau of Education Bulletin*, 1918, No. 19. Washington: Government Printing Office, 1918. 28 p.
- "Course of study in school health—physical education, Grades I-VIII." Harrisburg, Pennsylvania: Department of Public Instruction, 1923. 291 p.
- "Early European history—secondary course of study—grade ten." Trenton, New Jersey: Board of Education, 1924. 98 p.
- "Economics—secondary course of study." Trenton, New Jersey: Board of Education, 1923. 36 p.
- "English, history, science, mathematics, foreign language." *Course of Study Monographs, Junior High School*, No. 1. Berkeley, California: Board of Education, 1922. 132 p.
- "General plan and syllabus for physical training in the elementary and secondary schools of the state of New York." *University of the state of New York Bulletin*, No. 724. Albany: University of the State of New York, 1920. 424 p.
- "Lessons in physical education for elementary grades." *Educational Publication*, No. 66, Division of Publication, No. 13. Raleigh, North Carolina: State Superintendent of Public Instruction. (No date given, but new) 125 p.

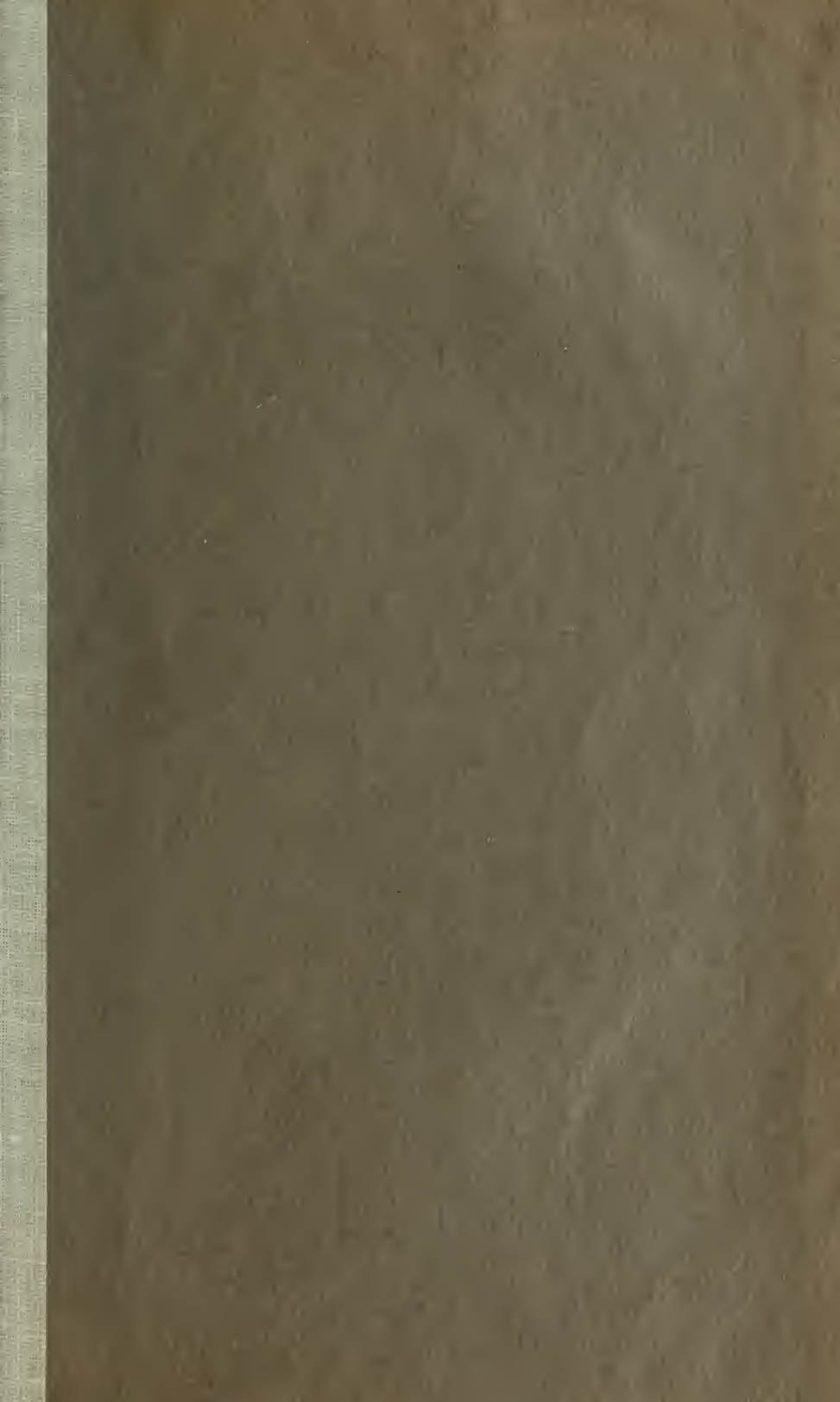


- "Modern European history—secondary course of study—grade eleven." Trenton, New Jersey: Board of Education, 1924. 65 p.
- "Problems in democracy—secondary course of study." Trenton, New Jersey: Board of Education, 1923. 57 p.
- "The social studies in the elementary and secondary school." Twenty-Second Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1923. 344 p.

CIRCULARS OF THE BUREAU OF EDUCATIONAL RESEARCH, COLLEGE  
OF EDUCATION, UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS

- No. 19. Streitz, Ruth. Provisions for Exceptional Children in 191 Illinois Cities.
- No. 20. McClusky, Frederick Dean. Place of Moving Pictures in Visual Education.
- No. 21. Monroe, Walter S. Announcement of the Bureau of Educational Research for 1923-24.
- No. 22. Odell, Charles W. Provisions for the Individual Differences of High School Pupils.
- No. 23. Monroe, Walter S. Educational Guidance in High Schools.
- No. 24. Nolan, Aretas W. The Project in Education with Special Reference to Teaching Agriculture.
- No. 25. Monroe, Walter S. and Clark, John A. Measuring Teaching Efficiency.
- No. 26. Barton, H. J., Clark, E. L., Pence, Helen, and others. Notes on the Teaching of Latin in High Schools.
- No. 27. Streitz, Ruth. Educational Diagnosis.
- No. 28. Staley, Seward C. The Program of Sportsmanship Education.
- No. 29. Odell, Charles W. The Use of the Question in Classroom Instruction.
- No. 30. Odell, Charles W. The Evaluation and Improvement of School Buildings, Grounds and Equipment.
- No. 31. Monroe, Walter S. The Planning of Teaching.
- No. 32. Miller, F. J., Flickinger, R. C., Sargent, Rachel L., Luke, Ethel J., Thompson, Glenna D., and others. Latin in High Schools.
- No. 33. Odell, Charles W. Educational Tests for Use in Elementary Schools, Revised.
- No. 34. Odell, Charles W. Educational Tests for Use in High Schools, Revised.
- No. 35. Monroe, Walter S. The Making of a Course of Study.
- No. 36. Reagan, George W. Principles Relating to the Engendering of Specific Habits.

A limited number of copies of these educational circulars are available for free distribution to superintendents and teachers in Illinois. We shall be glad to add to our mailing list for these circulars the names of any teachers or superintendents who care to receive them regularly. We shall be glad also to send additional copies of any circular to superintendents or principals for distribution among their teachers. Address all communications to the Bureau of Educational Research, University of Illinois.









UNIVERSITY OF ILLINOIS-URBANA



3 0112 084223004